

GLENN L. MARTIN COMPANY,

Titan Missile Test Facilities, Catch Basin
Waterton Canyon Road and Colorado Highway 121
Vicinity of Lakewood
Jefferson County
Colorado

HAER No. CO-75-H

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PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
National Park Service
Department of the Interior
Denver, Colorado 80225-0287

HISTORIC AMERICAN ENGINEERING RECORD

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Significance: The Catch Basin is one of the last remnants of an extensive, gravity-fed water deluge system that helped to cool the test stand flame deflectors during captive firings of the Titan I and Titan II intercontinental ballistic missiles.

Description: Nestled into a gently sloping hillside approximately 0.25 mile southeast of the Cold Flow Lab, the Catch Basin is an earthen holding pond lined with a layer of reinforced concrete. The basin is semicircular in plan, with a straight, 280-foot long spillway on the west side, and a gently curving wall on the east.

The water supply for the deluge system was stored in a cylindrical, reinforced-concrete tank located atop a hill at the westernmost corner of the test site. When a test firing was in progress, water poured out of the tank through steel conduits mounted on the hillside. The conduits were connected to pipe manifolds attached to the flame deflectors. The manifolds sprayed the face of each deflector with as much as 30,000 gallons of cooling water per minute. A ferrocement apron at the base of the test stand collected wastewater and fuel spillage, funneling the runoff into a system of concrete pipes and trough-like, open-topped flumes, consisting of steel half-culverts supported on timber trestles. The flumes carried the water to the Catch Basin, where the excess fuel was burned. Fuel-laden water from the Cold Flow Lab was also channeled to the Catch Basin through a gunite-lined ditch.

History: When originally completed in 1957, the Catch Basin was lined with a layer of gun-emplaced ferrocement. In 1960, the original gunite lining was removed, and a new layer of reinforced concrete was installed in its place. At about the same time, the capacity of the water deluge system was vastly increased when a new 1,000,000-gallon, steel water storage tank was erected on the hill adjacent to the original tank.

Sources: Original project blueprints for the Catch Basin are located in the Plant Engineering Department at Martin-Marietta Astronautics Group, Denver, CO. The Company's Photographics Department maintains a collection of color and black-and-white photographs depicting the process water tanks and the open flumes, and showing the water deluge system in operation. The new water storage tank is mentioned in "First Titan II Propulsion System Test Firing at M-D," Martin Mercury 18 (16 June 1961): O.

Historians: John F. Lauber and Jeffrey A. Hess; Hess, Roise and Company, 1994.